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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,463	12/31/2003	Richard Scott Bourgeois	131757	9806

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GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER

RUTHKOSKY, MARK

ART UNIT	PAPER NUMBER
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1745

MAIL DATE	DELIVERY MODE
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07/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/750,463	Applicant(s) BOURGEOIS, RICHARD SCOTT	
	Examiner Mark Ruthkosky	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 21-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/31/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 12/31/2003 has been placed in the application file, and the information referred to therein has been considered as to the merits.

Drawings

The drawings filed on 12/31/2003 have been approved.

Election/Restrictions

Applicant's election without traverse of Group I, claims 1-20, in the reply filed on 5/1/2007, is acknowledged.

Claim Objections

Claims 1-20 are objected to because of the following informalities: The claims include the letter C, which must be removed from the claim number. No letters are permitted in the claim numbers. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims include the limitation, "a high temperature fuel cell." The term "high temperature" in the claim is a relative term, which renders the claim indefinite. The term "high temperature" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6-11, and 13-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Reichner et al. (US 5,169,730.)

The instant claims are to an oxidant distribution system for a fuel cell assembly comprising: a fuel cell having at least one oxidant inlet and at least one oxidant outlet, a housing surrounding said fuel cell, and an insulation layer interposed between said housing and said fuel

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cell, said insulation layer defining at least a first cavity adjacent said at least one oxidant inlet for channeling oxidant flow to said at least one oxidant inlet.

Reichner et al. (US 5,169,730) teaches an oxidant distribution system for a fuel cell assembly comprising: a fuel cell having at least one oxidant inlet and at least one oxidant outlet, a housing surrounding said fuel cell, and an insulation layer interposed between said housing and said fuel cell, said insulation layer defining at least a first cavity adjacent said at least one oxidant inlet for channeling oxidant flow to said at least one oxidant inlet (see figures 1-2 and claims 1-18.) An oxidant supply feed is in communication with the cavity. The inlet distribution system includes a second portion that has a larger cross sectional size and mates with the oxidant inlet of the fuel cell in a diffuse manner (see the figures.) The outlet distribution system includes a first portion that has a larger cross sectional size than the outlet of the fuel cell (see the figures.) The insulation is a refractory ceramic such as alumina (see col. 4, lines 15-end.) The fuel cell is high temperature and a solid oxide fuel cell (col. 4, lines 14-35.) Thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reichner et al. (US 5,169,730), as applied above, and further in view of Kelly et al. (EP 1,300,902.)

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The teachings of Reichner et al. (US 5,169,730) have been presented. The reference does not teach an internal surface of said first cavity is roughened to enhance turbulent flow there through. Kelly et al. (EP 1,300,902), however, teaches a fuel cell having a reactant flow filed wherein an internal surface of the flow cavity is roughened to enhance turbulent flow. It would have been obvious to one of ordinary skill in the art at the time the invention was made to roughen the surface of a fuel cell flow path to enhance turbulent flow, as noted in Kelly. This allows for increased reaction consumption at the electrodes. The artesian would have found the claimed invention to be obvious in light of the teachings of the references.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references include general teachings and relevant features as to the state of the art at the time of the invention.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

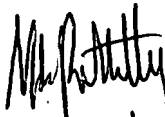
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky

Primary Patent Examiner

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7/9/07